



2017
**WATER
QUALITY**
REPORT

WWW.FRISCOTEXAS.GOV/WATER

CITY OF FRISCO, TEXAS | PUBLIC WORKS DEPARTMENT

Message About **OUR WATER**

The City of Frisco's water is safe, high-quality drinking water.

Frisco's water system has a "superior" rating with the Texas Commission on Environmental Quality (TCEQ) and exceeds all state and federal drinking water standards.

The Consumer Confidence Report is a summary of the water quality we provide to our customers. It includes information on the water source, contaminants found in the water, special health effects, and any drinking water violations.

This report provides an analysis and summary of recent tests performed, as required by TCEQ. It describes our efforts to provide you with safe drinking water. **The city's distribution system did not receive any health violations in 2016.**

The United States Environmental Protection Agency (EPA) requires every public water system to provide information to each water customer annually.

We hope this information helps you become more knowledgeable about your drinking water. The City of Frisco keeps a record of all water quality reports on the city's website. Visit friscotexas.gov/water to learn more.





Why is this Report Important?

This report describes the susceptibility and types of constituents, or small amounts of contaminants, that may come into contact with your drinking water source based on human activities and natural conditions. The presence of these substances in drinking water does not necessarily pose a health risk.

The information contained in the assessment allows us to focus on source water protection strategies. For more information on source water assessments and protection efforts of Frisco's system, please contact the Public Works Department at 972-292-5800.

Special Notice for People with Weakened Immune Systems

Residents with weakened immune systems may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water.

Infants, some elderly or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections.

We recommend you seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to reduce the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.

FREQUENTLY ASKED QUESTIONS ABOUT WATER

WATER QUALITY CONCERNS?

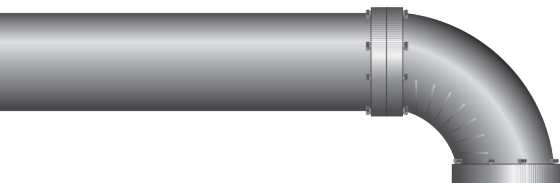
Frisco Water Division employees check disinfectant residuals daily to confirm the safety of our water. If you have questions on the chemical composition or quality analysis of our water, call the North Texas Municipal Water District at 972-442-5405.

PRESSURE CONCERNS?

Water pressure at your property may be controlled by an individual pressure reducing valve on your service line or by the pressure on the city's water lines. Call the Public Works Department at 972-292-5800 to determine the source of any pressure problems.

IS FRISCO'S WATER HARD OR SOFT?

Frisco's water is considered hard. The "hardness" in drinking water is caused by high amounts of calcium and magnesium, two commonly found minerals in water. Washing dishes and producing lather with soap may be difficult.



WATER QUALITY

Drinking water, including bottled water, may contain trace elements of contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material.

Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the source water before treatment may include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants. When drinking water meets federal standards there may not be any health-based benefits to purchasing bottled water or point of use devices.

More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-7791.

A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by the Texas Commission on Environmental Quality. A preliminary assessment will be available later this year on Texas Drinking Water Watch at <http://dww2.tceq.texas.gov/DWW/>.

Cryptosporidium

Cryptosporidium is a microorganism (protozoan) naturally present in lakes and rivers when the water is contaminated with sewage or animal wastes. It affects the digestive tract of humans and animals. People with healthy immune systems will usually recover within two weeks or less. When ingested, it may result in symptoms that include diarrhea, nausea, and/or stomach cramps. The NTMWD continues to diligently test both the lake water and treated water for the presence of cryptosporidium.

Secondary Constituents

Secondary constituents, such as calcium, sodium, or iron, often found in drinking water, can cause taste, color, and odor problems. The State of Texas regulates these taste and odor constituents. These constituents are not causes for health concerns. Secondary constituents are not required to be reported but may greatly affect the appearance and taste of your water.

Taste and Odor

Taste and odor problems can occur in any lake for a number of reasons, such as algae growth, change in temperature, excessive rainfall, flooding, and dry weather conditions. The grassy, earthy taste and smell usually occur during the hot summer months and are not causes for health concerns. The NTMWD has ozonation treatment facilities in operation that should reduce or eliminate taste and odor issues in the water.

LOCAL WATER SUPPLY

The City of Frisco receives treated water from the North Texas Municipal Water District (NTMWD) which supplies water to approximately 1.6 million people in 13 member cities, 90 communities and 10 counties.

Five surface water supply sources currently make up the NTMWD reservoir system that supplies our treated drinking water. The primary source is Lavon Lake with additional sources that include: Jim Chapman Lake, Lake Texoma, Lake Tawakoni, and the East Fork Water Reuse Project (Wetland).

The United States Army Corps of Engineers has full authority to operate, maintain, and release water for flood control at its reservoirs used in the NTMWD service area. The NTMWD has water supply rights granted through permits by the State of Texas for use of the stored water in these reservoirs.

Frisco's Water Distribution System

The City of Frisco Public Works Department distributes approximately 9.4 billion gallons of water annually through 940 miles of water mains and two pump stations. Storage capacity, including ground and elevated water storage, is 51.75 million gallons.

In the water loss audit submitted to the Texas Water Development Board for the time period of January through December 2016, our system reported an estimated loss of 5.40% or 499,931,328 gallons of water.

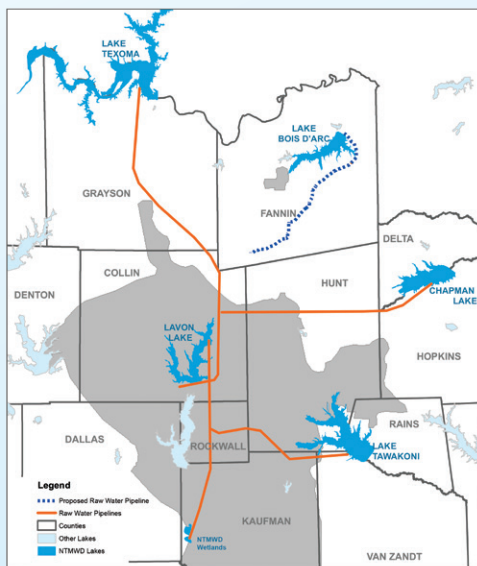
For questions about the water loss audit, please call 972-292-5800.

FUTURE WATER SUPPLY

The population of the NTMWD service area is expected to double in size by 2050. To meet future water demands, the NTMWD has identified numerous water management strategies and projects to generate additional water supplies.

The Lower Bois d'Arc Creek, located in Fannin County, is one of these new sources. The project completion date is 2022.

Conservation plays a critical role. More than 30 percent of our future water supply will come from conservation and reuse water strategies.



DRINKING WATER QUALITY RESULTS

The following table lists the regulated and monitored chemical constituents which have been found in our drinking water. The U.S. EPA requires water systems to test for up to 97 federally regulated primary constituents. (Data collected primarily from 2016)

INORGANIC CONSTITUENTS							
Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2016	Antimony	0	0	6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; and test addition
2016	Arsenic	0.9	0.0 - 0.9	0	10	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2016	Barium	0.061	0.042 - 0.061	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2016	Chromium	1.2	0.52 - 1.20	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits
2016	Fluoride	0.93	0.13 - 0.93	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2016	Nitrate (measured as Nitrogen)	0.494	0.494 - 0.494	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from a health care provider.							
2016	Selenium	2	0 - 2	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
5/2/16	Beta/photom emitters	4.4	4.4 - 4.4	0	50	pCi/L	Decay of natural and man-made deposits

ORGANIC CONSTITUENTS							
Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2016	Atrazine	0.61	0.31 - 0.61	3	3	ppb	Runoff from herbicide used on row crops
2016	Di (2-ethylhexyl) phthalate	ND	0 - 0	0	6	ppb	Discharge from rubber and chemical factories
2016	Simazine	ND	0 - 0	4	4	ppb	Herbicide runoff

MAXIMUM RESIDUAL DISINFECTANTS								
Year	Substance	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units	Source of Chemical
2016	Chlorine Residual (Chloramines)	2.83	0.5	4.0	4.0	<4.0	ppm	Disinfectant used to control microbes
2016	Chlorine Dioxide	0	0	0	0.8	0.8	ppm	Disinfectant
2016	Chlorite	0	0	0.115	1.0	N/A	ppm	Disinfectant

Note: The NTMWD, the City of Frisco's water supplier, uses the disinfectant chloramine instead of chlorine. Chloramines reduce the level of disinfection by-products (DBPs) in the system, while still providing protection from waterborne disease.

DISINFECTION BYPRODUCTS								
Collection Date	Disinfectants and Disinfection By-Products	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2016	Total Haloacetic Acids (HAA5)	25.8	16.0 - 25.8	No goal for total	60	ppb	N	By-product of drinking water disinfection
2016	Total Trihalomethanes (TTHm)	37.3	18.8 - 37.3	No goal for total	80	ppb	N	By-product of drinking water disinfection
2016	Bromate	6	0.0 - 6.0	5	10	ppb	N	By-product of drinking water ozonation

UNREGULATED CONSTITUENTS					
Collection Date	Contaminants	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
2016	Chloroform	18.40	8.2 - 18.40	ppb	By-product of drinking water disinfection
2016	Bromoform	1.40	<1.0 - 1.4	ppb	By-product of drinking water disinfection
2016	Bromodichloromethane	12.10	6.30 - 12.10	ppb	By-product of drinking water disinfection
2016	Dibromochloromethane	6.90	2.81 - 6.90	ppb	By-product of drinking water disinfection

The City of Frisco provides its monthly & annual water quality reports online.

LEAD AND COPPER

Collection Date	Contaminants	The 90th Percentile	# of sites exceeded action level	Action Level	Units	Likely Source of Contamination
2016	Lead	2.02	0	15	ppb	Corrosion of customer plumbing; erosion of natural deposits
2016	Copper	0.7229	0	1.3	ppm	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems

ADDITIONAL HEALTH INFORMATION FOR LEAD: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The NTMWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

TURBIDITY

Turbidity	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.78	No	Soil runoff
Lowest monthly percentage (%) meeting limit	0.3 NTU	96.20%	No	Soil runoff

NOTE: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

TOTAL COLIFORM

Year	Parameter	Highest Monthly % of Positive Samples	UNIT of Measure	Violation	Likely Source of Contamination
2016	Total Coliform Bacteria	0	Presence	No	Naturally present in the environment, used as an indicator that other potentially harmful bacteria may be present

SECONDARY AND OTHER CONTAMINANTS NOT REGULATED (NO ASSOCIATED ADVERSE HEALTH EFFECTS)

Collection Date	Parameters	Highest Level Detected	Range of Levels Detected	Units	Likely Source
2016	Calcium	85.2	30.7 - 85.2	ppm	Abundant naturally occurring element
2016	Chloride	70.3	15.2 - 70.3	ppm	Abundant naturally occurring element; used in water purification; by-product of oil field activity
2016	Hardness as Ca/Mg	238	159 - 238	ppm	Naturally occurring calcium and magnesium
2016	pH	9.0	7.1 - 9.0	units	Measure of corrosivity of water
2016	Sodium	77.4	26.8 - 77.4	ppm	Erosion of natural deposits; by-product of oil field activity
2016	Sulfate	144	69 - 144	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity

Definitions

Maximum Contaminant Level (MCL) –

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) –

The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) –

The highest level of disinfectant allowed in drinking water. There is convincing evidence that adding a disinfectant is necessary to control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) –

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Treatment Technique (TT) –

A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Parts Per Million – One part per million corresponds to one penny in \$10,000.

Parts Per Billion – One part per billion corresponds to one penny in \$10,000,000.

Abbreviations

NTU – Nephelometric Turbidity Unit

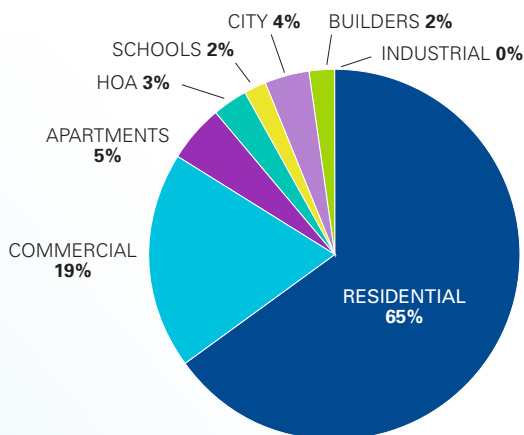
pCi/L – picoCuries per liter

ppm – parts per million, or milligrams/liter

ppb – parts per billion, or micrograms/liter

ND – Non Detectable

OUR WATER RESOURCE



WHERE DOES FRISCO'S WATER GO?

WATER WASTE IN FRISCO

Do you see water waste? By reporting water waste, you are helping the city educate our community about preserving this precious resource. Visit www.friscotexas.gov/reportwaterwaste or use the myFrisco app.

If you receive a watering violation and need assistance, contact the Public Works Department at 972-292-5800 or publicworks@friscotexas.gov.

WATER CONSERVATION AWARD

The City of Frisco Water Resources Division received the American Public Works Association (APWA) Texas Chapter Sustainability Practices Award. Frisco was recognized for making outstanding contributions to promote the sustainability of water resources in the environment, community, and economy through educational programs such as free sprinkler system checkups, weekly WaterWise newsletters, and WaterWise workshops.

YEAR IN REVIEW 2016 WATER USAGE

As our community continues to grow, we strive to be WaterWise. Frisco's water use totaled 8.96 billion gallons of water or 162 gallons per person per day (GPCD). The state goal is 140 GPCD.

In January, the lowest water use month, Frisco used 103 GPCD. The highest water use month was July, with 250 GPCD. Approximately 70% of Frisco's water consumption in July was for outdoor irrigation.



WATERSHED PROTECTION

Stormwater runoff is any precipitation that does not soak into the ground but instead runs off its surface. Impervious surfaces such as driveways, sidewalks, and streets block precipitation from soaking naturally into the ground. Stormwater carries litter, pesticides, and other harmful pollutants into local creeks, streams, and lakes. These pollutants can have a harmful effect on ecosystems.

Although stormwater pollution is a problem affecting all of us, good habits can make a difference.

LANDSCAPING TIPS

- Read the label before applying fertilizer. Use only the recommended amount. Apply organic fertilizers that release nutrients slowly, creating healthier soil.
- Avoid using pesticides and weed killers unless absolutely necessary.
- Properly dispose of yard waste. Compost grass clippings and leaves. Excess amounts of yard waste in creeks and streams consumes oxygen needed by fish.
- Decrease sprinkler system run times to avoid over watering.
- Pick up trash from your lawn and neighborhood. Wind will carry debris into storm drains.
- Bag and dispose of pet waste, which can damage your lawn and pollute creeks and streams.



Learn more about Frisco's Stormwater Program at www.friscotexas.gov/stormwater

COMMUNITY OPPORTUNITIES

1 WATERWISE WORKSHOPS

The City of Frisco hosts a variety of workshops for residents. These workshops cover water-saving techniques and conservation principles to help preserve and protect our most valuable resource. For more information visit www.friscotexas.gov/water.

2 PUBLIC PARTICIPATION

The Frisco City Council meets the first and third Tuesday of every month at 6:30 p.m. The Council Chamber is located in the George A. Purefoy Municipal Center at 6101 Frisco Square Blvd.

Council meetings are open to the public with opportunities for residents to share their concerns on any city-related subject.

WATER EFFICIENCY

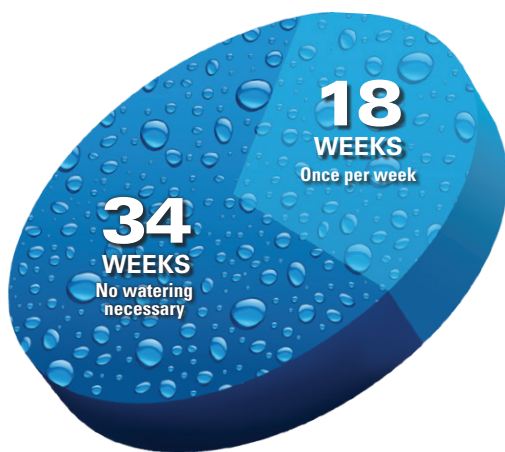
FRISCO'S WEATHER STATION

How much water do lawns really need? When it comes to watering efficiently outdoors, knowing how much to water is half the battle.

That's why, in 2008, the City of Frisco installed a weather station, equipped with a rain gauge, in each quadrant of the city. The weather station measures temperature, solar radiation, rainfall, humidity, and wind speed, which helps determine the amount of water a landscape actually needs.

Every Monday, we provide our subscribers with lawn watering advice based on data collected from our weather station. Residents and local landscape professionals use the weekly watering recommendations to adjust sprinkler system schedules.

Based on data from Frisco's weather station, no watering was necessary for 34 weeks in 2016. For the rest of the year, we recommend watering one day per week. Frisco's recommendations illustrate that natural rainfall is our best resource. Sprinkler systems should be used as recommended.



2016 Recommendations

Let Frisco's weather station data be your smart controller. Subscribe to weekly WaterWise newsletters, via friscotexas.gov/water, or call the Watering Line: **972-292-5801**.

Best Management Practices for Being Water Wise

Frisco's Best Management Practices (BMPs) allow for flexibility in watering lawns and landscapes. To be WaterWise and most efficient, water only when recommended by the City of Frisco's weather station.



Current Watering Schedule

- **Use Frisco's Weather Station data to determine when to water your lawn**

Keep automatic systems and hose-end sprinklers turned off until weather station data advises otherwise. Watering is permitted once per week on your residential trash/recycling day, but not between 10 am - 6 pm during Daylight Saving Time. For more information view the watering schedule map at www.friscotexas.gov/water.

- **Hand water up to two hours daily**

Watering with a hand-held hose, soaker hose, drip irrigation, or bubbler system may be used up to two hours on any day.

Sprinkler System Check-ups

Do you water wisely? We want to help you reduce your outdoor water use and maintain a healthier landscape. Schedule a FREE sprinkler system check-up with a City of Frisco licensed irrigation specialist to ensure your system is operating efficiently.

During a check-up, our specialist will guide you through your sprinkler system operation, identify broken or

misaligned sprinkler heads, check for leaks, evaluate water-use efficiency, and set controller run times based on the Cycle and Soak method for watering. Frisco's licensed irrigators performed more than 3,500 check-ups in 2016.

Call 972.292.5800 to schedule your FREE sprinkler system check-up.



Community Captain Program

Join our grass roots volunteer network and help spread the word about the city's water efficiency and water quality programs. The Community Captain Program is a great way to get to know your neighbors and share your enthusiasm for preserving our water supply.



CITY OF FRISCO
Public Works Department
11300 Research Road
Frisco, TX 75033

PUBLIC WORKS DEPARTMENT

Phone: 972-292-5800
Email: publicworks@friscotexas.gov
Website: friscotexas.gov/water
Watering Line: 972-292-5801



CURRENT WATER CUSTOMER

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Para Traducción en Español, por favor de llamar al numero 972-292-5800.

PRST STD
U.S. POSTAGE
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PERMIT NO. 1
FRISCO, TEXAS
75034